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PLANNING AND CONTROL OF PUBLIC WORKS

INTRODUCTION*

This survey of the expenditures of American governments on public works was begun in the summer of 1929, some months before the crash in the American stock market and the spread of unemployment among American industries. Although the use of public works as a factor in the regularization of industry or in stimulating business has been the subject of considerable discussion in this, as in foreign countries, the factual basis for a considered policy and program was lacking. It was proposed, therefore, to undertake a preliminary, but comprehensive study of the volume of public expenditures on permanent improvements; their variety; the programs of the future; the important administrative features encountered in the execution of public works projects; and to examine, in theory and practice, the essential elements of proposed programs of control.

In the preparation of estimates of the total volume of public works in this country, it is necessary to resort to two separate and distinct sources of information, the statistics of contracts awarded for public works and the official reports of the expenditures of the various governments on permanent improvements. Of these two sources, the first alone is convenient and exhaustive. Use of the second involves not only the examination of hundreds of the financial reports of municipalities, towns and townships, federal and state governments, but, in addition, discussion with the financial officers of these governments for the purpose of reclassifying the published records of outlays and placing them upon a more or less comparable basis. Estimates of total expenditures in this study, therefore, rest upon the statistics of contracts awarded and not upon the financial reports of public agencies.

Since it is in part the purpose of this survey to present an adequate view of the characteristics of the public works problem in this country, these gross estimates of expenditures are supplemented by more or less detailed descriptions of the activities of sample municipal and state governments, of the federal government, and of the Bureau of Public Highways. The expenditures

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of the governments of New York City and of New York State were chosen as descriptive of the public works activities of state and municipal governments, not because they are the most representative or the most typical, but because the data were close at hand and most conveniently available for collection and analysis.

The status of public works projects, in most of their phases, is always changing. Permanent improvements are planned, initiated and completed. The power of governments to tax and to borrow varies with the changes in general economic conditions and with the state of affairs prevailing in particular communities. Computations of the unused margins of borrowing-power that represent an accurate picture at one date may be without much value six months later. The presentation of these changing items requires the existence of a continuing agency, charged with the function of collecting basic data, reducing them to comparable form, and keeping them up to date. This function the Division of Public Construction of the United States Department of Commerce, created on December 2, 1929, has already begun to perform. After several years, the Division of Public Construction may be expected to issue current reports on the important aspects of public construction whose immediate preparation, in the present state of the materials, would involve great expense.

Probably the most important finding of the present study is the estimate of the volume of expenditures in the United States on projects of public construction. During the most recent years, public works constituted between 35 and 40 per cent of all construction, both public and private, in this country and in 1928 and 1929 amounted to roughly \$3,500,000,000 a year, having risen to this level from somewhat less than two billions in 1923. The largest single category of public construction is road building which in 1928 accounted for an expenditure of more than one and one half billion dollars. It is probable that these figures underestimate the total outlay on public works in this country, because of the difficulty of making satisfactory estimates of the total expenditures on repairs and maintenance, which appear to be increasing from year to year, and of the total outlays of towns and townships.

Outlays by the federal government on public works are less than ten per cent of the total. The federal government and all governments within the geographical area of New York State, together, account in recent years for 20 per cent of the total ex-

penditures on public construction in this country. This proportion will probably be exceeded during 1930 because of the increased budgets of the federal government, and of the governments of New York City and New York State. Of the outlays of the federal government on public works more than a third is spent on public roads and more than one-half on roads and ship building. The leading expenditures of state governments are on road building, the elimination of grade crossings, and on public buildings. American municipalities spend their appropriations for permanent improvements largely for improving the facilities of transportation, in the form of expenditures for subways, bridges, viaducts, street extensions and widening; on public buildings, largely schools and hospitals; and on improving the facilities of water supply and sewage disposal.

While it is impossible to make a statistical estimate of the probable expenditures on public works in the next years, it is clear that the principal spending agencies are behind in their programs of permanent improvements. The future programs of American governments reflect the pressing physical requirements of our communities and their rising standards of living. Except in the case of communities whose growth has stopped or whose rate of growth has been retarded, the problems of traffic congestion, or water supply and sewage disposal, and of adequate hospital and school facilities appear to impose on American governments programs requiring mounting outlays for those purposes in the future.

Constitutional limitations on the public debt and the burden of a rising tax rate are the most serious limiting factors on the uninterrupted rise in appropriations for public works. All local governments are limited by constitutional provision in their power to incur debt. In general, debt-incurring power is fixed by the relation between the outstanding debt and the assessed valuation of property. Since 1919, it would appear that the tax rate and the per capita debt burden has increased more rapidly than the assessed valuation of property. Sample studies of the margins of unused debt power, however, indicate that the bulk of American governments were not in 1928 and 1929, at least, in a state of financial embarrassment, because of the operations of these constitutional limitations. A not inconsiderable factor in the situation has been the creation of quasi-public authorities, such as the Port of New York Authority, empowered to borrow without involving the

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credit of the government and to initiate and operate public works.

Changes in the volume of the public debt are also affected by the state of the money market. The disorganized state of the money market during the war, for instance, produced a marked drop in the flotation of public bond issues. During a period of extreme stringency, like that prevailing in 1928 and 1929, governments reduced their issues and for pressing needs resorted to the use of short term issues and to temporary drafts on their current revenue. Thus the total of municipal loans for new financing dropped from \$1,150,000,000 in the first nine months of 1927, to \$962,000,000 in 1928, and to \$918,000,000 in 1929. With the easing of money rates at the close of 1929, there was a sharp rise of municipal issues in December 1929, bringing the total for that month above the total for any December since 1920, excepting 1921.

The very large number of agencies concerned with the planning, initiation and execution of public works in this country present obvious problems in the control of these operations. The impression of confusion that arises out of the detailed consideration of the expenditures of the many governments of the country is clearly exaggerated, since the total construction output of American governments is \$3,500,000,000 or the equivalent of the value product of any vast competitive industry. The fact of the multiplicity of public planning and administrative agencies, nevertheless, remains. But the influence of this factor can be measurably reduced in proportion as our public economies are placed on sounder foundations. Where, in other words, the dictates of efficient government have led to the use of adequate budgets, and the planning of expenditures over a series of years, it would appear to be possible to use the machinery so set up for the purposes of accelerating public works when such a program is deemed necessary. The existence of future five or ten-year programs of public projects, as in the cases of Cincinnati and Detroit, or in the building of subways and water supply systems in New York City, has created the requisite machinery of control. In general, the activities of city and regional planning commissions, of bureaus of municipal research, and of voluntary conference committees such as exist in Rochester and Philadelphia, or an agency like that recently created by the Governor of New York

State, have hastened the prospects for future planning and control.

A factor in the planning and control of public works is their high degree of seasonal variation, which, if it were found to be unavoidable, might prevent a substantial increase in the volume of such undertakings during the winter months. A study of the seasonal variations in various types of construction contracts from 1919 to 1928 disclose the widest variations among contracts for public works and public utilities. Results arrived at by comparing the average deviation of the seasonal index from 100 and the range from the lowest to the highest months, for the various groups of construction contracts are shown in the following tabulation:¹

Series	Average Deviation	Range
Total Contracts, All groups.....	15.2	58
Residential	11.8	49
Commercial	12.5	40
Industrial	13.8	60
Public Works and Public Utilities.....	25.6	84

The greater seasonal variability in the last series may well be due, in part at least, to the large proportion of public expenditures that is used in the construction of highways, where improved practices and better planning may in the future reduce these ranges as they have been reduced in many other types of construction.

On the question of the uses of proposed controls over public construction, the prevailing theories show the uncertainties characteristic of many of our explanations of basic economic problems. The increase in the volume of public works as a direct solution of the unemployment problem has historically proved a failure. This method has failed to absorb a substantial proportion of the unemployed; it has led to the undertaking of works not really required by the government; and to great wastes in the administration of the job. The method of the "prosperity reserve" involving as it does the retardation of public works, has produced further difficulties. In many periods public construction is subject to natural retardations due to money stringency, a tight labor market,

¹Taken from the unpublished data of Wesley C. Mitchell and Simon Kuznets, National Bureau of Economic Research.

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the rising cost of materials, or like factors. The bulk of American governments also would seem to be far behind in their programs for meeting the physical necessities of the situation. Retardation would, therefore, meet with resistance on the part of public officials. The most feasible form of control, consequently, appears to be that of the temporary acceleration of works already projected. The effective achievement of this goal depends, in turn, on the progressive improvement in the management of our many governments.